	Work Order ID 102140 https://doi.org/10.102140			*102140*							
Item ID: Revision ID: Item Name:	D3121-23 Bearing		A	ccept	*N900	040	100)* s	etup Sta Sto	i V	S1*
Start Date: Required Date: Reference:	5/27/13	Start Qty: 50.00 Req'd Qty: 50.00	*50* *50*		Cust Item I Customer:	D:				14	. 1/
Approvals:		n: <u>州レ</u> ブ	Date: 13-05- 27	Tooling: SPC (Y/N):		ate:		R	un Sta Sto	1/1	R1* R2*
Sequence ID/ Work Center I		Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revi	sion Nbr									
D3121	Rev	E									
*100 *100* Purchasing Purchasing		PURCHASING Memo Issue P/O: \(\frac{1}{2} \) SKF P/N: 61	3993Bearing as pe 900-2Z or KML P/N: 6900-:	0.00 0.00 r Dwg D3121Possible ZZMaterial release not	Supplier: e is required			CX	13/	05/2	7.50
110		Receive & Inspect for Da	mage & Mat'l Certs	0.00				Fal		,	$G \cap$
110 Packaging Packaging		Memo Ensure Mate	rial Release Note is attached	0.00				<u> </u>			135

120

QC6- Inspect dimensions to drawing

120

Quality Control

Memo
Inspect dimensions as per Dwg D3121 and attached certification Dwg Rev

											DQA:	Dat	e:	
NCR: Y	'es	/ No				WORK ORDER NON-C	10:	NFORM	MANCE / UPD	ATE	•		•	•
		•							•		QA Closed:	Dat	e:	
Work Orde	r.			,		DISPOSITION				AGAINST DE	PARTMENT	/PROCESS		
Part N	- lo					Rework Scrap Use-as-is Work Order Update		t Therm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite		Water Jet d. Eng. Coor. re/Packaging Supplier		Engineering Quality Other
Root					Descri	ption of work order update		Initial	Actio	on	Sign &			
Cause		Date	Step	Qty	C	or Non-conformance	Ch	nief Eng	Descrip	otion	Date	Verification		QC Inspector
Doc/Data														
Equip/Tooling													ļ	
Operator													- 1	
Material													1	
Setup														
Other													ł	
Process														
Supplier										:				
Training			ļ				l							
Unapproved														
						F/	AUL	T CATE	GORY					
Landi	ng G	ear				General		_						
		Bending				Bend		Grain			Ovalized			Pressure/Forced
		Centre No	ot Conce	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance		Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorred	ct .		Weld
		Crushed/	Crimped			Burrs	Г	Instruct	ions Incomplete/Un	nclear	Part Lost/Mi	ssing		Wrong Stock Pulled
		Cuffs	-			Contamination		Mainte			Part Moved			
		Heat Trea	ət			Countersink		Mislabe	led		Positioned V	Vrong		
		Inspection	n Strip in	Tube		Cut Too Short		Misread	i		Power Loss/	Surge		Other
	\vdash	Ripples in				Drill Holes		Offset			•			

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

	<u>-</u>	
Work Or	der ID 1	02140
May-27-13 1.	2:39:57 PM	
Item ID:	D3121-23	
Revision ID:		
Item Name:	Bearing	
Start Date:	5/27/13	Start Qt

Quality Control

*1	02 1	14	()	*
----	-------------	----	-----	---

0.00

Memo

Page 2

May-27-13 12:.	39:57 PM			1117	14()							
Item ID: Revision ID:	D3121-23			Accept	*N900	040	100)* s	etup Sta	1.71	S1*	
Item Name:	Bearing			•					Sto	^ν *Ν	S2*	
Start Date:	5/27/13	Start Qty: 50.00	*50*		Cust Item I	D:						
Required Date: Reference:	: 5/31/13	Req'd Qty: 50.00	*50*		Customer:					·		
Approvals:	Process Pla	n:	Date:	Tooling:	Da	ate:	-	R	Run Sta	!/	R1*	
••	QC:		Date:	SPC (Y/N):	Da	ate:			Sto	*N	R2*	
Sequence ID/ Work Center I	D	Operation Description	-A	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	,
130 .		Identify as per dwg & Stoc	k Location.	0.00							\mathcal{A}_{I}	
130 Packaging Packaging		Мето		0.00				50			13/26	128
140		QC21- Final Inspection - V	Vork Order Release	0.00					j	3/5/	ba da	

1715 139 499 MK 135-28

												DQA:	D	ate:	
NCR: Y	⁄es	/ No				WORK ORDER NON-C	100	VFORM	MANCE / UP	DATE		QA Closed:	n	ate:	P
						DISPOSITION				A CAINST D				ate.	
Work Orde	er:					DISPOSITION				AGAINST D	Eł	PAKTIMENT	PROCESS		
	-	·				Rework]		Skid-tube	Crosstube	٦		Water Je	t	Engineering
Part N	No.					Scrap	1	r	Machining	Small Fab	٦	Pro	d. Eng. Coor		Quality
	-					Use-as-is	1 1	Therm	noforming	Finishing	٦	Rec/Stor	e/Packaging	3	Other
NCR N	No.					Work Order Update			Large Fab	Composite			Supplie	r	
											_	C: 0			<u></u>
Root					-	ption of work order update		Initial		tion		Sign &			
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Desc	ription	4	Date	Verification	on i	QC Inspector
Doc/Data	Ш						1								
Equip/Tooling															
Operator	\sqcup														ļ
Material	Ш													i	
Setup	Ш													i	
Other				1											
Process															
Supplier											١				
Training											١				
Unapproved										1.2.3	╝				
						F.	AUL	T CATE	GORY		_				
Landi	ng G	Gear				General	_	-				•			,
		Bending				Bend	L	Grain		<u>_</u>	_	Ovalized			Pressure/Forced
		Centre No	ot Concer	ntric to C)/S	BOM/Route	L	Hardwa	re		╝	Over/Under	tolerance		Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on Incomplete			Part Incorred	ct		Weld
		Crushed/	Crimped			Burrs		Instruct	ions Incomplete/	Unclear		Part Lost/Mi	ssing		Wrong Stock Pulled
	П	Cuffs				Contamination		Mainte	nance	Γ		Part Moved			
		Heat Trea	ıt			Countersink		Mislabe	led	Γ		Positioned W	Vrong		_
			Tube		Cut Too Short		Misread			Power Loss/	Surge		Other		

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print

May-27-13 12:39:57 PM

Work Order ID:

102140

Parent Item:

D3121-23

Parent Item Name:

Bearing

Start Date: 5/27/13

Required Date: 5/31/13

Start Qty: 50.00

Required Qty: 50.00

Comments:

IPP A: 04.02.19 New Issue KJ/DS

IPP Rev:B ECN 1060 07-11-12 DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
6900ZZ		Purchased	No			100	Each	0.0000	1 5	50	~ (i	\sim	$\supset Q$
Bearing										SX_S	2/5/-	<u> </u>	

Page 1

										DQA:	Date:	
NCR: Ye	es / No				WORK ORDER NON-C	CON	IFORM	MANCE / UPDATE				•
										QA Closed:	Date:	·
Work Order	֥				DISPOSITION			AGAIN	ST DE	PARTMENT	/PROCESS	
VOIN OIGE	·				Rework	1 i		Skid-tube Crosstul	oe 🗀	7	Water Jet	Engineering
Part No	n				Scrap	1		Machining Small Fa		Pro	d. Eng. Coor.	Quality
1 410 11	·			 	Use-as-is	1		noforming Finishi		-3	e/Packaging	Other
NCR N	0.				Work Order Update	1		Large Fab Composi			Supplier	
						,				·		
Root				Descri	ption of work order update	11	nitial	Action		Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Description		Date	Verification	QC Inspector
oc/Data		1	ļ									
quip/Tooling						١						
perator												
// laterial	_											
etup		1					Ī					
Other	_						ļ					
rocess	_						i					
iupplier							ļ				=	
raining	_						l					
Inapproved		<u> </u>	<u> </u>			<u> </u>						
						AUL	T CATE	GORY			<u> </u>	
Landin	 1			_	General		1		_	٦		7_ /
-	Bending			<u> </u>	Bend	-	Grain		\vdash	Ovalized		Pressure/Forced
-	Centre Not Concentric to O/S		BOM/Route	-	Hardwa		-	Over/Under		Temperature/Cure		
	Cracks	_		<u> </u>	Broken/Damaged	_	l .	on Incomplete		Part Incorred	-	Weld
	Crushed/	Crimped		<u> </u>	Burrs	Н		ions Incomplete/Unclear	\vdash	Part Lost/Mi	ssing	Wrong Stock Pulled
-	Cuffs			-	Contamination	Щ	Mainte		-	Part Moved		•
	Heat Tre			L	Countersink	\vdash	Mislabe		-	Positioned V	_	Jours .
-	Inspection		Tube	 	Cut Too Short		Misread	I	L	Power Loss/	Surge	Other
	Ripples in			L	Drill Holes	\vdash	Offset	- 40				
		Vaves in f		n	Drawing	\vdash		Calibration				
	Turning S	Sequence			Finish		Out of S	Sequence				

Outside Dimensions

Wave/Twist in Tube

Folio



(

DESIG	#	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA							
CHEC	KED	APPROVED	DRAWING NO. REV. E							
	#	T	D3121 SHEET 1 OF 10							
DATE			TITLE SCALE							
07.1	1.07		BRACKET ASSEMBLY 1:2							
Α		02.04.15	NEW ISSUE							
В		03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146							
С		04.02.17	ADD CLEARANCE; USE -241 BEARING							
D		06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000							



	BOLT (1)
D3121-2	241	
BEARING	ASSEMBLY	(1)

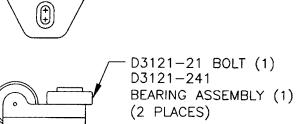
D3121-11 BRACKET

D3121-041 BRACKET ASSEMBLY

07.11.07

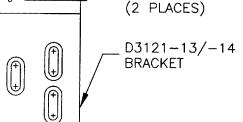
(REPLACES PREMIER P/N B30-23000-33)

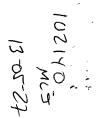
ADD TOLERANCE TO 0.032 (DETAIL B)

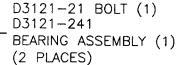


D3121-043 (SHOWN) / D3121-044 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-37/-38)

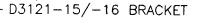






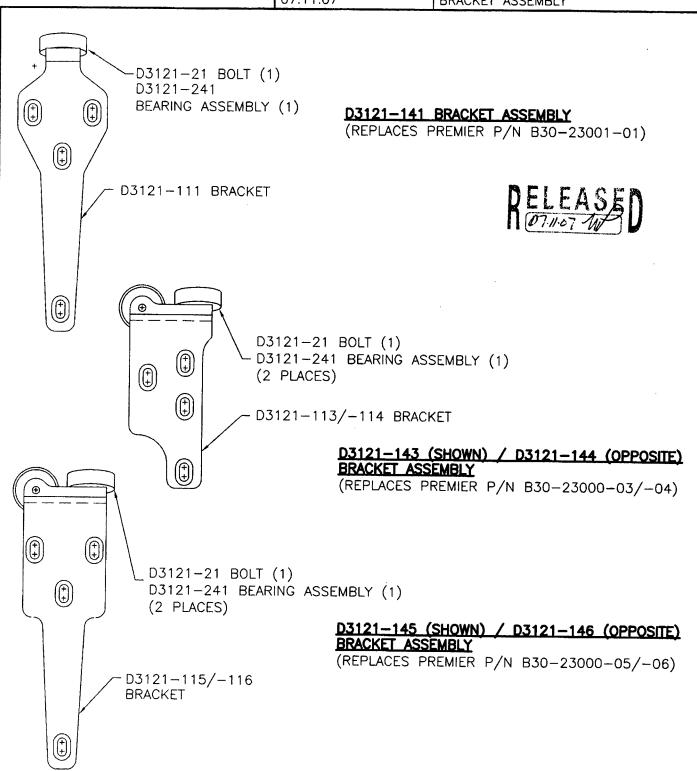
D3121-045 (SHOWN) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-35/-36)





DESIGN	DRAWN BY	DART AEROSP HAWKESBURY, ONTAR	
CHECKED	APPROVED	DRAWING NO.	REV. E
4#		D3121	SHEET 2 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2

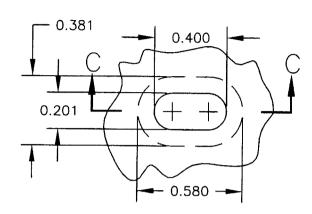


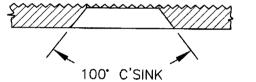
Copyright © 2002 by DART AEROSPACE LTD



DESIGN	DRAWN BY		OSPACE LTD ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO.	REV. E
#	一	D3121	SHEET 3 OF 10
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:1

DETAIL A: SLOT DETAIL SCALE 2:1 VIEW ROTATED

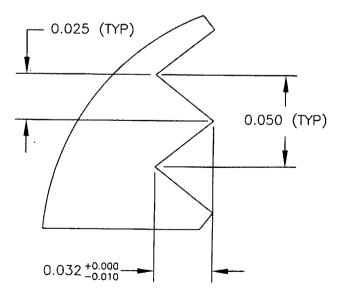




SECTION

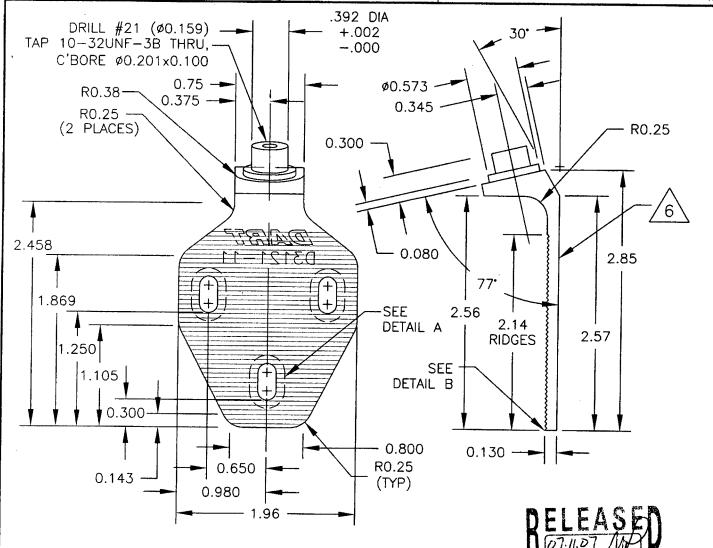


DETAIL B: RIDGE DETAIL PARTIAL SECTION SCALE 1:20





DESIGN #	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
CHECKED	APPROVED,	DRAWING NO.	REV. E	
4	-#	D3121	SHEET 4 OF 10	
DATE		TITLE	SCALE	
07.11.07		BRACKET ASSEMBLY	1:1	



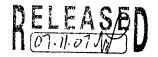
D3121-11 BRACKET

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
 MIN ULTIMATE TENSILE = 150 ksi
 MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

Copyright @ 2004 by DART AEROSPACE LTD



DESIGN A DRAWN BY		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
CHECKED	APPROVED	DRAWING NO.	REV. E	
4	-	D3121	SHEET 5 OF 10	
DATE		TITLE	SCALE	
07.11.07		BRACKET ASSEMBLY	1:2	



DART D3121-13

 \bigoplus

1.220 - 1.800 · 2.63

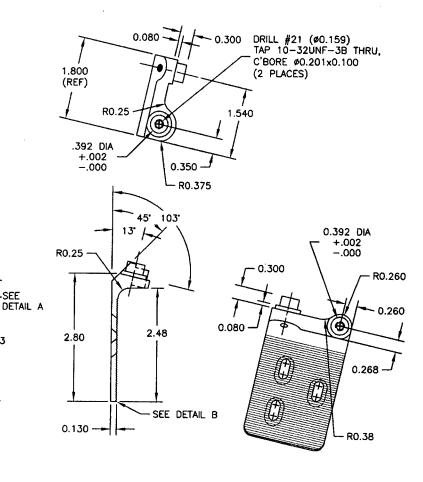
<u>6</u>

0.400 -

1.280

0.960

0.330

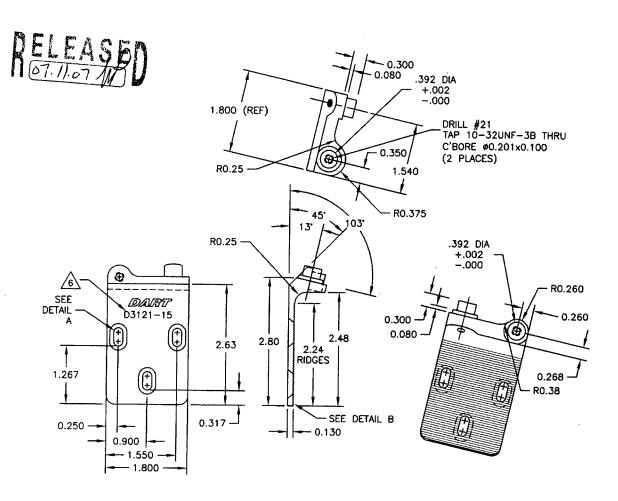


D3121-13 BRACKET (SHOWN) D3121-14 BRACKET (OPPOSITE)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B) MIN ULTIMATE TENSILE STRENGTH = 150 ksi MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005



DESIGN 4	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
CHECKED	APPROVED	DRAWING NO.	REV. E	
9#	9	D3121	SHEET 6 OF 10	
DATE		TITLE	SCALE	
07.11.07		BRACKET ASSEMBLY	1:2	



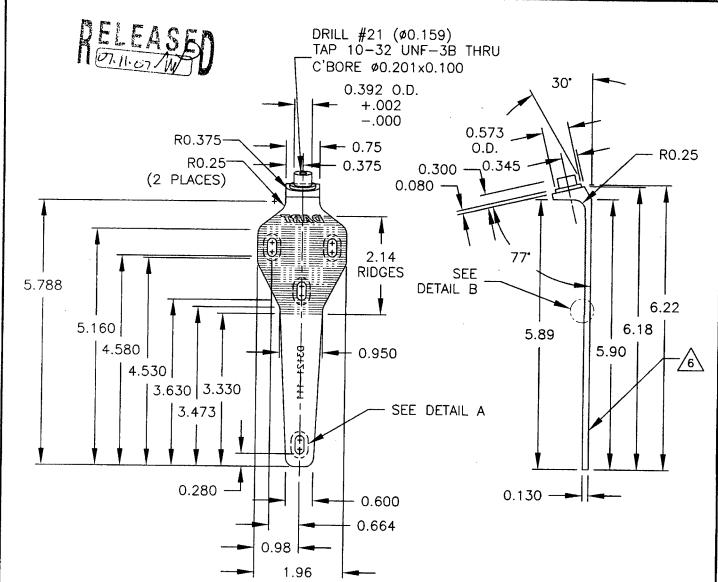
D3121-15 BRACKET (SHOWN) D3121-16 BRACKET (OPPOSITE)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
 MIN ULTIMATE TENSILE = 150 ksi
 MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

Copyright © 2002 by DART AEROSPACE LTD



DESIGN #	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
CHECKED	APPROVED	DRAWING NO.	REV. E	
91		D3121	SHEET 7 OF 10	
DATE		TITLE	SCALE	
07.11.07		BRACKET ASSEMBLY	1:2	



D3121-111 BRACKET

- 1) REPLACES PREMIER P/N B32-23001-11
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)

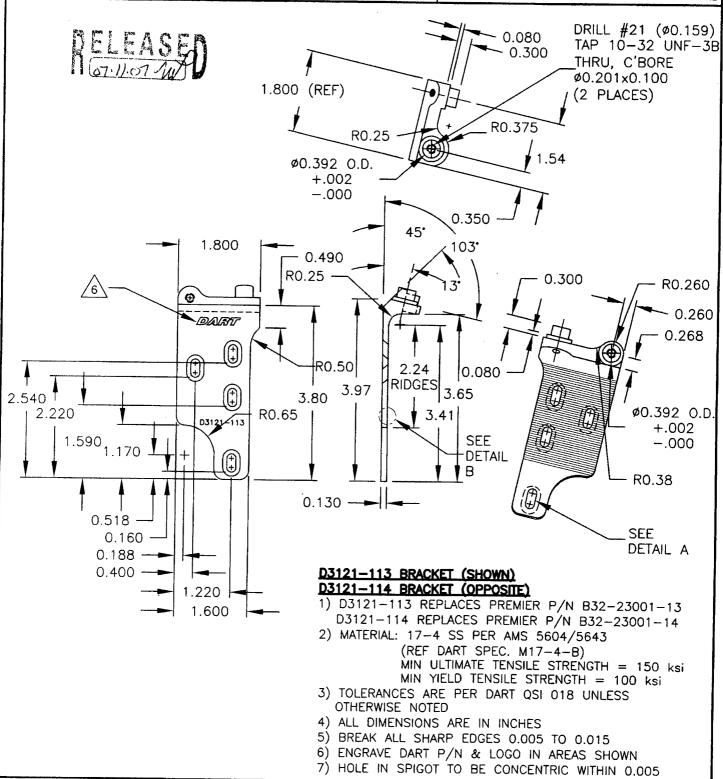
MIN ULTIMATE TENSILE = 150 ksi MIN YIELD TENSILE = 100 ksi

- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHEWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

Copyright © 2002 by DART AEROSPACE LTD



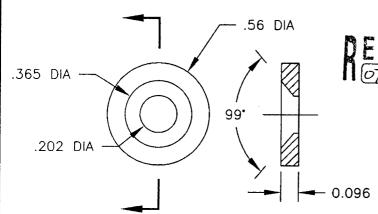
DESIGN DRAWN BY		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
CHECKED	APPROVED	DRAWING NO.	REV. E SHEET 8 OF 10	
DATE		TITLE	SCALE	
07.11.07		BRACKET ASSEMBLY	1:2	



Copyright © 2002 by DART AEROSPACE LTD

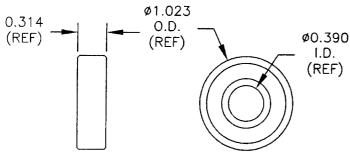


	DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
	CHECKED A	APPROVED	DRAWING NO.	REV. E		
	9	#	D3121	SHEET 10 OF 10		
1	DATE	· •	TITLE	SCALE		
	07.11.07		BRACKET ASSEMBL	Y 1:1		



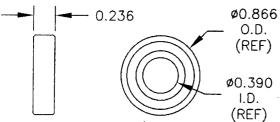
D3121-17 WASHER (SCALE 2:1)

- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCÈS ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-19 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES



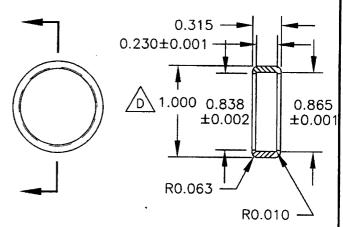
D3121-23 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z OR KML P/N 6900-ZZ
- 2) ALL DIMENSIONS ARE IN INCHES

0.375 TAP 10-32 UNF-3A O7.11-07 M 0.080 0.050 TO 0.060

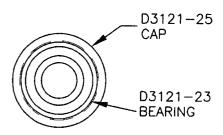
D3121-21 BOLT (SCALE 1:1)

- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-25 CAP (SCALE 1:1)

- 1) MATERIAL: DELRIN ROD, Ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES



D3121-241 BEARING ASSEBLY (SCALE 1:1)

Copyright @ 2002 by DART AEROSPACE LTD

MAIN INDUSTRIAL SALES LTD.

1475 TESSIER ST.

HAWKESBURY ON K6A 3S6

Phone: (613) 632-3595 Ext. Fax: (613) 632-0262

sales@mainindustrialsales.com

Packing Slip DATE May 27, 2013

DATE May 27, 2013 NUMBER 0000162938 CUSTOMER NO. DART

BILL TO:

DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY ON K6A 1K7 SHIP TO:

DART AEROSPACE LTD. 1270 ABERDEEN ST. HAWKESBURY ON K6A 1K7

(613) 632-5200 Ext.

(613) 632-5200 Ext.

P.O. NUMBER	SALESPERSON	ORDER D	ATE	REQ. DAT	E ORDE	R NUMBER	
19993	EB 27-May-13 SHIP VIA OUR TRUCK / LOCAL		3		00	0000162938	
F.O.B.				TERMS			
F.O.B. value				NET 30 DAYS			
PART NUMBER DESCRIPTION	LOCATION	UOI	M	QUANTITY REQ. SHIPPED B.		B.O.	
0-69002ZKML KML BALL BEARING	6D6	EA		50	50		
YOUR PART #: 6900ZZ			, , , , ,	manage of same same.	Hamilton is N. M. Familiani, and C. C.	THE STORY . MAY COMPANY .	
					~(
				6013	50	,	



Dart Aerospace Ltd. 1270 Aberdeen Street Hawkesbury, ON K6A 1K7

Tel: 613 632 9577 Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO19993

Purchase Order Date 5/27/2013 PO Print Date 5/27/2013

Page Number 1 of 1

Order From:

VC-MAI001

MAIN INDUSTRIAL SALES LTD. 1475, TESSIER HAWKESBURY, ON K6A 3S6

CA

Contact Name

Vendor Phone

613 632 3595

Vendor Fax

613 632 0262

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

Tax Resale Nbr

10127-2607

Terms Currency Net 30 CAD

FOB

Destination-Collect

Ship To:

DART AEROSPACE LTD

1270 ABERDEEN

HAWKESBURY, ON K6A 1K7

CANADA

Line Nbr Reference

Revision ID

Vendor Part Number

6900ZZ

Description/ Mfg ID

Bearing

Req Date/

Taxable Unit of Measure

50.00

Each

Req Qty/ Ship Method

Unit Price

Extended

Price

5/29/2013

Yes

Yours ppd

\$1.6200

8135-28

\$81.00

Special Inst:

AS AS PER DWG D3121 REV. E

B102140

SKF P/N: 61900-2Z OR KML P/N: 6900-ZZ

PO Total:

\$81.00

No substitution or deviation without consent.

Certificate of Conformity of Material Certification required - YES NO

Change Nbr:

Change Date: 5/27/2013